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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/777,922 02/07/01 KOHASHI

I 925-175

MM91/0611

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EXAMINER

ZARNEKE, D

ART UNIT

PAPER NUMBER

2812

DATE MAILED:

06/11/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

**Office Action Summary**

Application No.

09/777,922

Applicant(s)

KOHASHI, IKUO

Examiner

Cecil B. Harmon

Art Unit

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 February 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) 4-9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All   b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.                      6) ☐ Other:

### DETAILED ACTION

Acknowledgement is made of the receipt of priority document and Information Disclosure Statement dated 07 July 2001. Further, claims 4-9 are withdrawn from consideration based on a non traversal election in response to Office Action dated June 11, 2001.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-3 rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi (**5627851**). The reference discloses in **Fig. 5b** a semiconductor laser apparatus **101** with a conductive die-bonded **104** to a bonding surface **105** with a conductive die-bonding paste **104**. The semiconductor laser chip **101** has a light – emitting point **107** at each of opposed end surfaces such that a highest position at which the conductive die-bonding paste **104** adheres to the end surfaces **col. 1, 19- 29** of the semiconductor laser chip **101** is at a height of more than 0.01mm from the bonding surface **105**, but is below the light – emitting point **107** of the semiconductor laser chip **101**. Takahashi (**5627851**) discloses the claim invention except for teaching

that the semiconductor laser **101** is at a height of more than 0.01 mm from the bonding surface.

2. It would have been obvious to one of ordinary skill in the art at the time of the invention to elevate the emitting surface of the semiconductor such that there will be no reduction in optical coupling efficiency to an optical fiber, since it has been held that discovering the optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

3. In regards to claim 2, Takahashi (**5627851**) discloses the claimed invention but does not teach that the conductive die bonding paste **104** contains an epoxy resin as base material.

4. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a die-bonding paste containing epoxy resin, since it is well known in the art that epoxy resin base material which maintain its shape when harden, will stabilize and improve optical efficiency of the semiconductor chip when bonded to a stem **105**.

5. In regards to claim 3, Takahashi (**5627851**) discloses the claimed invention but does not teach that the conductive die-bonding paste **104** contains silver flakes as a conductive filler.

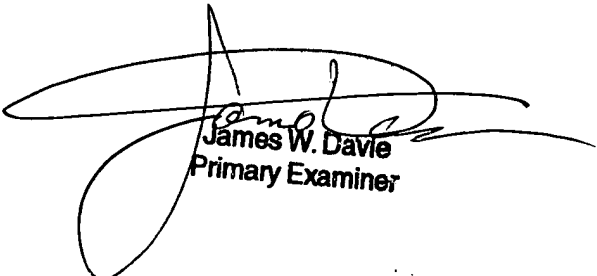
6. However, it would have been obvious to one of ordinary skill in the art at the time on the invention to use silver flakes as a conductive filler since it is well known in the art

that bonding paste which contain silver flakes as a conductive filler tends to increase strength of the bond between surfaces.

**Conclusion**

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cecil B. Harmon whose telephone number is 703-306-0247. The examiner can normally be reached on 8am-4pm.
8. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Teresa M. Arroyo can be reached on 703-308-4782. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-0956 for After Final communications.
9. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

CBH  
CBH  
August 27, 2001

  
James W. Davie  
Primary Examiner